AMENDMENT OF SOLICITATI	ON/MODIFICATI	ON OF CONTRACT	1. Contract I		Page 1 Of 2	12
2. Amendment/Modification No.	3. Effective Date	4. Requisition/Purchase Req		5. Project No. (	If applicable)	
P00026	2003NOV03	SEE SCHEDULE				
6. Issued By	Code W56HZV	7. Administered By (If other	than Item 6)		Code	S2305A
TACOM WARREN BLDG 231 AMSTA-AQ-ALDB LENNIE SCHWERDTFEGER (586)574-8144 WARREN, MICHIGAN 48397-5000		DCMA DETROIT U.S. ARMY TANK & AUT (TACOM) ATTN: DCMAE-GJD	FOMOTIVE COMM	AND		
HTTP://CONTRACTING.TACOM.ARMY.MIL		WARREN, MI 48397-50	000			
EMAIL: SCHWERDL@TACOM.ARMY.MIL		SCD C	PAS NONE	ADP P	<b>Т</b> но0337	
8. Name And Address Of Contractor (No., Stre	et, City, County, State and	l Zip Code)	9A. Amendmen	nt Of Solicitation	No.	
GENERAL DYNAMICS LAND SYSTEMS CUSTO 38500 MOUND ROAD STERLING HEIGHTS, MI. 48310	MER SERVICE & SUPPOR		9B. Dated (See	Item 11)		
		x	10A. Modificat	tion Of Contract	Order No.	
			DAAE07-00-C-	0027		
TYPE BUSINESS: Large Business Perfo	rming in U.S.	}	10B. Dated (Se			
Code OC9L5 Facility Code			2000JUL14			
11. T	HIS ITEM ONLY APPLI	ES TO AMENDMENTS OF SO	OLICITATION	IS		
The above numbered solicitation is amend is extended, is not extended.  Offers must acknowledge receipt of this ame (a) By completing items 8 and 15, and return offer submitted; or (c) By separate letter or ACKNOWLEDGMENT TO BE RECEIVED SPECIFIED MAY RESULT IN REJECTIO change may be made by telegram or letter, propening hour and date specified.	ndment prior to the hour a ing copies of telegram which includes a O AT THE PLACE DESIGN OF YOUR OFFER. If I	and date specified in the solicit of the amendments: (b) By acks reference to the solicitation an SNATED FOR THE RECEIPT by virtue of this amendment yo	ation or as ame nowledging rece d amendment n T OF OFFERS I ou desire to char	nded by one of the cipt of this ame no tumbers. FAILUPRIOR TO THE age an offer alrea	lment on each c RE OF YOUR HOUR AND Da dy submitted, s	opy of the ATE auch
12. Accounting And Appropriation Data (If red SEE SECTION G	(uired)			I	FMS REQUIREMEN	NT
13. THIS KIND MOD CODE: G		O MODIFICATIONS OF CO		DERS		
A. This Change Order is Issued Pursual The Contract/Order No. In Item 10a	nt To:	act/Order No. As Described In		nanges Set Forth	In Item 14 Are	Made In
B. The Above Numbered Contract/Ordo Set Forth In Item 14, Pursuant To T			uch as changes i	in paying office,	appropriation d	ata, etc.)
X C. This Supplemental Agreement Is Ent			ıt			
D. Other (Specify type of modification a	nd authority)					
E. IMPORTANT: Contractor is not,	X is required to sign	this document and return		copies to the Issu	ing Office.	
14. Description Of Amendment/Modification (	Organized by UCF section	headings, including solicitation	n/contract subje	ect matter where	feasible.)	
SEE SECOND PAGE FOR DESCRIPTION						
Contract Expiration Date: 2004AUG31						
Except as provided herein, all terms and conditand effect.	ions of the document refer	renced in item 9A or 10A, as he	eretofore chang	ed, remains unch	anged and in fu	ll force
15A. Name And Title Of Signer (Type or print)		16A. Name And Title ( RICHARD K. KULCZY KULCZYCR@TACOM.AR	CKI		print)	
15B. Contractor/Offeror	15C. Date Signed	16B. United States Of		1223	16C. Date Si	igned
(Signature of narrow outhoused to	-	By(Signature of	/SIGNED/	)fficor)	2003	BNOV03
(Signature of person authorized to sign)		30 105 02 (Signature o	of Contracting C	OTANDADD EC	DM 20 (DEX. 1	10.02)

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Name of Offeror or Contractor: General dynamics land systems customer service & suppor

#### SECTION A - SUPPLEMENTAL INFORMATION

- 1. The purpose of this modification P00026 is to add the requirement for procurement and delivery to the Moroccan freight forwarder CD850 transmission repair parts, CD850 mandatory replacement parts, CD850 plant equipment, AVDS 1790 Oversized Piston Rings, Nozzle Tester and Connecting Tube, and Shadowgraph. Also two items are removed from the Engine Dynamometer Adapters.
- 2.CD850 Repair Parts: CLIN 0005AF in the amount of \$191,251 is added to the contract. Paragraph C.2.3.4.2 is revised to add requirement for procurement and delivery of CD850 repair parts. Paragraph F.9.20 is added with delivery requirements. Attachment 015 is added identifying items and quantities.
- 3.CD850 Mandatory Replacement Parts: CLIN 0005AG in the amount of \$46,255 is added to the contract. Paragraph C.2.3.4.2 is revised to add requirement for procurement and delivery of CD850 mandatory replacement parts. Paragraph F.9.21 is added with delivery requirements. Attachment 016 is added identifying items and quantities.
- 4.CD850 Plant Equipment: CLIN 0005AH in the amount of \$124,053 is added to the contract. Paragraph C.2.3.4.12 is inserted to add requirement for procurement and delivery of CD850 plant equipment. Paragraph F.9.22 is added with delivery requirements. Attachment 017 is added identifying items and quantities.
- 5.AVDS 1790 Piston Rings: CLIN 0005AJ in the amount of \$53,368 is added to the contract. Paragraph C.2.3.3.19 is inserted to add requirement for procurement and delivery of Piston Rings. Paragraph F.9.23 is added with delivery requirements.
- 6.Nozzle Tester and Connecting Tube: CLIN 0005AK in the amount of \$2,162 is added to the contract. Paragraph C.2.3.3.20 is inserted to add requirement for procurement and delivery of Nozzle tester and connecting tube. Paragraph F.9.24 is added with delivery requirements.
- 7.Shadowgraph: CLIN 0005AL in the amount of \$628 is added to the contract. Paragraph C.2.3.3.21 is inserted to add requirement for procurement and delivery of Shadowgraph. Paragraph F.9.25 is added with delivery requirements.
- 8.CLIN 0005AB is decreased by \$2,553 from \$64,059 to \$61,506. Items 7 and 10 are deleted from Attachment 012.
- 9. As a result of this modification the total amount of the contract is increased by \$415,164 from \$17,999,963 to \$18,415,127.
- 10. All other terms and conditions remain unchanged and in full force and effect.
- 11. The parties mutually agree that all claims and obligations arising from this action are hereby satisfied.

\*\*\* END OF NARRATIVE A 025 \*\*\*

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Name of Offeror or Contractor: General Dynamics Land Systems Customer Service & Suppor ITEM NO SUPPLIES/SERVICES QUANTITY UNIT UNIT PRICE **AMOUNT** SECTION B - SUPPLIES OR SERVICES AND PRICES/COSTS 0005AB PRODUCTION QUANTITY 1 LO \$ 61,506.00000 \$ 61,506.00 CLIN CONTRACT TYPE: Firm-Fixed-Price NOUN: SPEC TOOLS & ENG PLT EQUIP PRON: J517H030EH PRON AMD: 07 ACRN: AE AMS CD: URJ004 CUSTOMER ORDER NO: J51URJ04EHMO FMS CASE IDENTIFIER: MO-B-URJ Packaging and Marking Inspection and Acceptance INSPECTION: Origin ACCEPTANCE: Origin <u>Deliveries or Performance</u> SUPPL DOC REL CD MILSTRIP ADDR SIG CD MARK FOR TP CD 001 BMOA4511449001 BZ3URJ L BMOA00 2 PROJ CD BRK BLK PT BMO003 <u>DEL REL CD</u> <u>QUANTITY</u> <u>DEL DATE</u>

1 31-JAN-2004 FOB POINT: Origin SHIP TO: Contact DCMA for shipping instructions MARK FOR: ADMINISTRATION DE LA DEFENSE NATTONALE DIVISION DE RECEPTION ET DE TRANSIT SERVICE DE RECEPTION DU MATERIEL DRT SRM CASABLANCA \$ 191,251.00000 \$ 191,251.00 0005AF PRODUCTION QUANTITY 1 CLIN CONTRACT TYPE: Firm-Fixed-Price NOUN: OVERHAUL PARTS CD850 PRON: J527H600EH PRON AMD: 01 ACRN: AH AMS CD: URJ009 CUSTOMER ORDER NO: J52URJ09EHMO FMS CASE IDENTIFIER: MO-B-URJ Procurement and delivery of CD850 transmission repair parts listed in Attachment 15 IAW C.2.3.4.2. (End of narrative B001)

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Name of Offeror or Contractor: General Dynamics Land Systems Customer Service & Suppor ITEM NO SUPPLIES/SERVICES UNIT UNIT PRICE AMOUNT QUANTITY Packaging and Marking Inspection and Acceptance INSPECTION: Origin ACCEPTANCE: Origin <u>Deliveries or Performance</u> SUPPL REL CD MILSTRIP ADDR SIG CD MARK FOR TP CD 001 BMOA4520259002A BZ3URJ L BMOA00 2 PROJ CD BRK BLK PT BMO003 
 DEL REL CD
 QUANTITY
 DEL DATE

 001
 1
 31-AUG-2004
 FOB POINT: Origin SHIP TO: Contact DCMA for shipping instructions MARK FOR: ADMINISTRATION DE LA DEFENSE NATIONALE DIVISION DE RECEPTION ET DE TRANSIT SERVICE DE RECEPTION DU MATERIEL DRT SRM CASABLANCA 0005AG PRODUCTION QUANTITY 1 LO \$ 46,255.00000 \$ 46,255.00 CLIN CONTRACT TYPE: Firm-Fixed-Price NOUN: CD850 MRP PRON: J527H600EH PRON AMD: 01 ACRN: AH AMS CD: URJ009 CUSTOMER ORDER NO: J52URJ09EHMO FMS CASE IDENTIFIER: MO-B-URJ Procurement and delivery of CD850 transmission Mandatory Replacement Parts listed in Attachment 016 IAW C.2.3.4.2. (End of narrative B001) Packaging and Marking Inspection and Acceptance INSPECTION: Origin ACCEPTANCE: Origin Deliveries or Performance REL CD MILSTRIP ADDR SIG CD MARK FOR TP CD 001 BMOA4520259002A BZ3URJ L BMOA00 2 PROJ CD BRK BLK PT

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ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
	BM0003  DEL REL CD QUANTITY DEL DATE  001 1 31-AUG-2004				
	FOB POINT: Origin				
	SHIP TO: Contact DCMA for shipping instructions				
	MARK FOR: ADMINISTRATION DE LA DEFENSE  NATIONALE  DIVISION DE RECEPTION ET DE TRANSIT  SERVICE DE RECEPTION DU MATERIEL  DRT SRM CASABLANCA				
0005AH	PRODUCTION QUANTITY	1	LO	\$ 124,053.00000	\$ 124,053.00
	CLIN CONTRACT TYPE:     Firm-Fixed-Price  NOUN: SPEC EQUIP & TRANS PLT EQUIP  PRON: J517H031EH PRON AMD: 04 ACRN: AG  AMS CD: URJ005  CUSTOMER ORDER NO: J51URJ05EHMO  FMS CASE IDENTIFIER: MO-B-URJ  Procurement and delivery of CD850 transmission  plant equipment listed in Attachment 017 IAW				
	C.2.3.4.12. (End of narrative B001)				
	Packaging and Marking				
	Inspection and Acceptance INSPECTION: Origin ACCEPTANCE: Origin				
	Deliveries or Performance  DOC SUPPL  REL CD MILSTRIP ADDR SIG CD MARK FOR TP CD  001 BMOA4511449002 BZ3URJ L BMOA00 2  PROJ CD BRK BLK PT  BMO003				
	DEL REL CD QUANTITY DEL DATE  001 1 31-AUG-2004				
	FOB POINT: Origin				
	SHIP TO: Contact DCMA for shipping instructions				
	MARK FOR: ADMINISTRATION DE LA DEFENSE  NATIONALE  DIVISION DE RECEPTION ET DE TRANSIT  SERVICE DE RECEPTION DU MATERIEL  DRT SRM CASABLANCA				

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Name of Offeror or Contractor: General Dynamics Land Systems Customer Service & Suppor ITEM NO SUPPLIES/SERVICES UNIT **AMOUNT** QUANTITY UNIT PRICE 0005AJ PRODUCTION QUANTITY 1 LO \$ 53,368.00000 \$ 53,368.00 CLIN CONTRACT TYPE: Firm-Fixed-Price NOUN: OVERSIZED ENGINE RING SETS PRON: J517H031EH PRON AMD: 04 ACRN: AG AMS CD: URJ005 CUSTOMER ORDER NO: J51URJ05EHMO FMS CASE IDENTIFIER: MO-B-URJ Lot consists of 60 sets of 0.020 oversized ring sets PN 5704477 and 60 sets of 0.030 oversized ring sets PN 5704478 IAW C.2.3.3.19. Delivery IAW F.9.23. (End of narrative B001) Packaging and Marking Inspection and Acceptance INSPECTION: Origin ACCEPTANCE: Origin <u>Deliveries or Performance</u> DOC SUPPL REL CD MILSTRIP ADDR SIG CD MARK FOR TP CD 001 BMOA4511449002 BZ3URJ L BMOA00 2 PROJ CD BRK BLK PT BMO003 DEL REL CD 001 FOB POINT: Origin SHIP TO: Contact DCMA for shipping instructions MARK FOR: ADMINISTRATION DE LA DEFENSE NATIONALE DIVISION DE RECEPTION ET DE TRANSIT SERVICE DE RECEPTION DU MATERIEL DRT SRM CASABLANCA 0005AK PRODUCTION QUANTITY 1 LO \$ 2,162.00000 \$ 2,162.00 CLIN CONTRACT TYPE: Firm-Fixed-Price NOUN: NOZZLE TESTER AND CONN TUBE PRON: J507G999EH PRON AMD: 02 ACRN: AB CUSTOMER ORDER NO: N6591600MPO7016

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ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
	Nozzle Tester (Bacharach model 65-0030) and Connecting Tube (Bacharach model 65-0276) IAW C.2.3.3.20. Delivery IAW F.9.24. (End of narrative B001)				
	Packaging and Marking				
	Inspection and Acceptance INSPECTION: Origin ACCEPTANCE: Origin				
	Deliveries or Performance  DOC SUPPL  REL CD MILSTRIP ADDR SIG CD MARK FOR TP CD  001 PMOA44933480010 BA3GAU L BMOA00 1  PROJ CD BRK BLK PT  BM0003  DEL REL CD QUANTITY DEL DATE  001 1 31-MAY-2003				
	FOB POINT: Origin				
	SHIP TO: PARCEL POST ADDRESS (BM0003) PANALPINA INC FMS DIVISION 22879 GLENN DRIVE SUITE 100 STERLING VA 20164-4480				
	MARK FOR: ADMINISTRATION DE LA DEFENSE  NATIONALE  DIVISION DE RECEPTION ET DE TRANSIT  SERVICE DE RECEPTION DU MATERIEL  DRT SRM CASABLANCA				
0005AL	PRODUCTION_QUANTITY	1	EA	\$ 628.00000	\$628.00
	CLIN CONTRACT TYPE: Firm-Fixed-Price NOUN: AVDS 1790 EQ OVERHAUL PKG PRON: J507G999EH PRON AMD: 02 ACRN: AB CUSTOMER ORDER NO: N6591600MPO7016				
	Shadowgraph (Jones & Lamson PC-14A) IAW C.2.3.3.21. Delivery IAW F.9.25				
	(End of narrative B001)				
	Packaging and Marking				
	Inspection and Acceptance				

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Name of Offeror or Contractor: General Dynamics land systems customer service & suppor

TEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
	INSPECTION: Origin ACCEPTANCE: Origin				
	Deliveries or Performance				
	DOC SUPPL				
	REL CD MILSTRIP ADDR SIG CD MARK FOR TP CD				
	001 PMOA44933480010 BA3GAU L BMOA00 1				
	PROJ CD BRK BLK PT				
	BM0003				
	DEL REL CD         QUANTITY         DEL DATE           001         1         31-DEC-2003				
	001 I 31-DEC-2003				
	FOB POINT: Origin				
	SHIP TO: PARCEL POST ADDRESS				
	(BMO003) PANALPINA INC FMS DIVISION 22879 GLENN DRIVE SUITE 100				
	STERLING VA 20164-4480				
	MARK FOR: ADMINISTRATION DE LA DEFENSE				
	NATIONALE				
	DIVISION DE RECEPTION ET DE TRANSIT				
	SERVICE DE RECEPTION DU MATERIEL				
	DRT SRM CASABLANCA				
			1		

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SECTION C - DESCRIPTION/SPECIFICATIONS/WORK STATEMENT

C.2 MAINTENANCE TECHNICAL ASSISTANCE GENERAL

C.2.1 MTA Objective General Dynamics Land Systems Customer Support and Services Company, as an independent Contractor and not as an agent of the USG, shall provide Maintenance Technical Assistance (MTA) efforts and program management for the objective of Facilitization of the United States Government/Royal Moroccan Army (USG/RMA) Tracked Vehicle Rebuild Facility (TVRF). The TVRF will be designed to conduct depot overhaul operations for a volume of approximately twenty five (25) components per year. Major tasks consist of the following:

Task	Paragraph
Program Management	C.3
Material Acquisition	C.4
Facilitization	C.5
Process Development	C.6
Design, Development, Implementation of Training	C.7
Technical Inspection	C.8
Feedback and Analysis	C.9
Property Management	C.10
Employment of Personnel and Personnel Support Services	C.11
Assumptions	C.12

- C.2.2 Program Concept: The intention of this program is to assist the RMA in the activation of the RMA Tracked Vehicle Rebuild Facility (TVRF) as a fully operational maintenance and repair organization capable of performing depot level overhaul of designated vehicles and associated components. This capability will be achieved by initiating a program of discrete increments consisting of tasks that will develop the material and operational infrastructure of the TVRF within specified funding and time constraints. Each increment is designed to assist the RMA to activate the overhaul capability of a designated component or assembly until the TVRF can overhaul the entire vehicle system. Increments will consist of the following work elements:
- C.2.2.1 Procurement of tooling and equipment required to perform DS/GS/ and depot level maintenance and repairs as designated in appropriate Technical Manuals, DMWRs and machine operators manuals listed in Attachment 005.
- C.2.2.2 Procurement of repair parts and supplies required to accomplish overhaul of designated items.
- C.2.2.3 Activation of machinery and plant equipment necessary to support planned overhaul operations.
- ${\tt C.2.2.4}$  Development of the processes required to accomplish the designated overhaul.
- C.2.2.5 Design, development, and implementation of training of RMA cadre in the use of equipment and overhaul processes.
- C.2.2.6 Establishment of feedback systems to monitor and provide continuous improvement of, training, material requirements, and processes. This process will be used to provide technical advice and assistance to the RMA as production and overhaul operations begin on each designated item.
- C.2.2.7 Analysis and planning of requirements for the subsequent increments required to expand the TVRF capability.
- C.2.2.8 (Reserved) Analysis and design of information technology systems to support inventory and production control requirements.
- C.2.3 Work Increments: Work increments consist of discrete activities structured to provide support to the activation of the TVRF by the sequential implementation of work elements that are designed as tasks to support designated components and assemblies. Work increments and elements can be combined or extended as funding and operational requirements dictate. A matrix located in Attachment 004 provides an overall program concept and identifies each component to be overhauled, the work elements to be accomplished, and the increment in which they will be conducted. If the USG alters the work content, then the contractor will be entitled to an equitable adjustment for any changes that have a cost impact.
- C.2.3.1 First Work Increment The first work increment includes procurement and delivery to the Moroccan freight forwarder the tools, test equipment and plant equipment required for the overhaul of M60Al/M48A5 Engines (AVDS 1790).
- C.2.3.1.1 The contractor shall procure and deliver under SubCLIN 0001AB the special tools and plant equipment specified in Attachment 001 to support the overhaul of AVDS 1790 engine at the Tracked Vehicle Repair Facility (TVRF) in Morocco. The performance period for completion of material delivery will be set forth at time of award in Section F, Delivery and Performance Schedule.
- C.2.3.1.2 SERVICE ITEMS The following four items listed in Attachment 001 with quantities of zero are in country in Morocco and are to be inspected and repaired by the contractor under SubCLIN 0001AB If one or more of these items are found to be non-repairable, the contractor will credit the repair cost shown below (which includes indirect costs and profit) and will propose replacement cost. The credit may be adjusted to account for material or subcontract costs incurred in attemped repairs.

Item No.	Description	Repair Cost
2	Stand, Generator / Starter Test	\$37,769
10	Test Stand, Injector Advance Unit	\$ 1,888
23	deleted	
25	Lathe, Engine	\$ 944

- C.2.3.2 Second Work Increment: The second work increment includes the following work elements:
- C.2.3.2.1 Procurement and the delivery to the Moroccan freight forwarder of Overhaul parts for 1790 Engine Part A under

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SubCLIN 0001AC and as listed in Attachment 003 and Part B under SubCLIN 0001AH and as listed in Attachment 010.

- C.2.3.2.2 Technical assistance to the RMA for the installation of special tools and test equipment procured in the 1st Increment under SubCLIN 0001AB and listed in Attachment 001, required for the overhaul of M60A1/M48A5 Engines (AVDS 1790), except item 1 (Dynamometer, 1790 Engine), and item 11 (Parts power washer) will not be installed by the RMA but by the contractor or its subcontractor with the assistance of the RMA.
- C.2.3.2.3 Provide technical assistance to the RMA for the installation of additional RMA-provided plant equipment as listed in Attachment 002.
- C.2.3.2.4 Provide site survey for the reengineering of the Dynamometer and other test rooms and facilities in the TVRF. The contractor shall record the results of the reengineering of the Dynamometer room in a contractor format report. Report will detail requirements for Dynamometer room to accommodate two dynamometers.
- C.2.3.2.5 Provide start-up effort for establishing and in-country team in Morocco under SubCLIN 0003AB to include, but not limited to, obtain and renovate office space and living quarters, purchase office equipment and vehicles, recruitment and delpoyment for increment 2.
- C.2.3.3 Third Work Increment: The third work increment includes the following work elements:
- C.2.3.3.1 Procurement and the delivery to the Moroccan freight forwarder special tools and test equipment required for the overhaul of M113 Engine (6V53) IAW SubCLIN 0001AD and as listed in Attachment 006.
- C.2.3.3.1.1 Procurement and delivery to the Moroccan freight forwarder Engine Dnyamometer Adapters including on-site verification and training (3 days) as identified in Attachment 012 IAW 0005AB.
- C.2.3.3.1.2 Procurement and delivery to the Moroccan freight forwarder one Fuel Injection Pump Test Stand, PN 11020200, IAW 0005AD.
- C.2.3.3.2 Procurement and delivery to the Moroccan freight forwarder remainder of the AVDS 1790 overhaul parts listed in Attachment 003.
- C.2.3.3.3 Procurement and delivery to the Moroccan freight forwarder of Overhaul parts for 6V53 Engines IAW SubCLIN 0001AE and as listed in Attachment 007.
- C.2.3.3.4 Procurement and delivery to the Moroccan freight forwarder of Mandatory Replacement Parts for 1790 Engines IAW SubCLIN 0001AF and as listed in Attachment 008.
- C.2.3.3.5 Technical assistance to the RMA for the installation of special tools and test equipment listed in Attachment 006, required for the overhaul of 6V53 Engines IAW C.5.
- C.2.3.3.6 (reserved) Provide technical assistance to the RMA for the installation of additional RMA-provided plant equipment listed in Attachment TBD IAW C.5.
- C.2.3.3.7 Design and development of the 1790 engine overhaul process IAW C.6.
- C.2.3.3.8 Provide technical oversight of the modification of designated TVRF rooms to accommodate Plant equipment.
- C.2.3.3.9 Design of a Facilities Preventative Maintenance Program for plant equipment installed in the TVRF.
- C.2.3.3.10 Design, development, and implementation of training of the RMA cadre in the use of tools, equipment and overhaul processes for the 1790 engine. (Less machinist reclamation skills will be trained in a subsequent increment following analysis of required processes and evaluation of equipment on hand.) IAW C.7
- C.2.3.3.11 Conduct technical Inspections of unserviceable/repairable AVDS 1790 engines on hand at the RMA supply depot to determine level of repair and select overhaul candidates, establish priorities, and production plan rates IAW C.8.
- C.2.3.3.12 Collect training, quality and performance data on current operations and provide to RMA staff for recommended improvements.
- C.2.3.3.13 Under SubCLIN 003AG Contractor shall provide one consultant for one week of technical consulting services to the TVRF for the renovation of the engine dynamometer room. During said week, consultant will evaluate the work in process and recommend any changes and/or additions necessary for the installation of the 1790 engine dynamometer system. Consultant shall also provide recommendations for the renovation of the room proposed to house the Hicklin EDECT-300 transmission dynamometer.
- C.2.3.3.13.1 Under SubCLIN 003AH Contractor shall provide one consultant for one week of technical
- consulting services to the TVRF following the renovation of the engine dynamometer room. During said week, consultant will evaluate the work completed and will recommend any changes and/or additions necessary for the installation of the 1790 engine dynamometer system. Consultant shall otherwise advise the FAR as to the acceptability of the renovations to said room.
- $\hbox{C.2.3.3.14 Provide requirements analysis and planning for 4th Increment IAW C.5.}$
- $\text{C.2.3.3.15}\quad\text{Logistics services for the AVDS 1790 engine IAW C.6.10.}$
- C.2.3.3.16 Procurement and delivery to the Moroccan freight forwarder of AVDS 1790 Plant Equipment, Part B IAW SubCLIN 0001AG and as listed in Attachment 009.
- C.2.3.3.17 Procurement and delivery to the Moroccan freight forwarder of 6V53 Mandatory Replacement Parts IAW SubCLIN 0005AA and as listed in Attachment 011.
- C.2.3.3.18 Procurement and delivery to the Moroccan freight forwarder of AVDS 1790 Plant Equipment, Part C IAW SubCLIN 0005AE and as listed in Attachment 014.
- C.2.3.3.19 Procurement and delivery to the Moroccan freight forwarder of AVDS 1790 oversided piston rings: 60 sets 0.020 oversized PN 5704477 and 60 sets 0.030 oversized PN 5704478, IAW SubCLIN 0005AJ.
- C.2.3.3.20 Procurement and delivery to the Moroccan freight forwarder of lea Nozzle Tester (Bacharach model 65-0030) and 1 ea Connecting Tube (Bacharach model 65-0276), IAW SubCLIN 0005AK.
- C.2.3.3.21 Procurement and delivery to the Moroccan freight forwarder of lea Shadowgraph (Jones & Lamson PC-14A) IAW SubCLIN 0005AL
- C.2.3.4 Fourth Work Increment: The fourth work increment includes the following work elements:
- C.2.3.4.1 (reserved) Procurement and the delivery to the Moroccan freight forwarder special tools and test equipment required for the overhaul of M60Al/M48A5 final drives IAW SubCLIN TBD and as listed in Attachment TBD.
- C.2.3.4.2 Procurement and the delivery to the Moroccan freight forwarder of Overhaul parts for M60A1/M48A5 Transmissions

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CD850 IAW SubCLIN 0005AF and as listed in Attachment 015, and procurement and the delivery to the Moroccan freight forwarder of MRP for M60A1/M48A5 Transmissions CD850 IAW SubCLIN 0005AG and as listed in Attachment 016.

- C.2.3.4.3 (reserved) Technical assistance to the RMA for the installation of special tools and test equipment procured in the 3rd Increment and listed in Attachment TBD, required for the overhaul of CD850 transmissions.
- C.2.3.4.4 (reserved) Provide technical assistance to the RMA for the installation of additional RMA-provided plant equipment listed
- C.2.3.4.5 (reserved) Design and development of the 6V53 Engine overhaul process.
- ${\tt C.2.3.4.6}$  (reserved) Design and development of the CD850 Transmission overhaul process.
- C.2.3.4.7 Design, development, and implementation of training of RMA cadre in the use of tools, equipment and overhaul processes for the 6V53 engine.
- C.2.3.4.8 Conduct technical Inspections of unserviceable/repairable 6V53 engines on hand at the RMA supply depot to

determine level of repair and select overhaul candidates, establish priorities, and production plan rates.

- C.2.3.4.9 Expansion of the facilities preventative maintenance program for additionally installed equipment.
- C.2.3.4.10 Collect training, quality and performance data on current operations and provide to RMA staff for recommended improvements. Provide technical advice and assistance to production operations.
- C.2.3.4.11 Provide requirements analysis and planning for 5th Increment.
- C.2.3.4.11.1 Provide requirements analysis for the M48A5 / M60A1 turret overhaul. The contractor will develop a plan for the Moroccan army to inventory their tank fleet and warehouses for types, available quantities and revision levels of M60Al and M48A5 fire control components, fire control overhaul repair parts and fire control special tools and test equipment. This plan will also provide guideance to the Moroccan army to help them develop alternate sources of M48A5 and M60A1 fire control parts, components and tools and test
- C.2.3.4.12 Procurement and the delivery to the Moroccan freight forwarder special tools and test equipment required for the overhaul of M60A1/M48A5 Transmissions (CD 850) IAW SubCLIN 0005AC and as listed in Attachment 013. Procurement and delivery to the Moroccan freight forwarder CD850 transmission tooling IAW SubCLIN 0005AH and as listed in Attachment 017.
- C.2.3.5 Fifth Work Increment: (Reserved) The fifth work increment includes the following work elements:
- C.2.3.5.1 Procurement and the delivery to the Moroccan freight forwarder special tools and test equipment required for the overhaul of M113A1 T100-1 transmissions, control differentials, M113A1 Transfer Cases and M113A1 Final Drives IAW SubCLIN TBD and as listed in Attachment TBD.
- C.2.3.5.2 Procurement and the delivery to the Moroccan freight forwarder of Overhaul parts for M60Al/M48A5 final drives IAW SubCLIN TBD and as listed in Attachment TBD.
- C.2.3.5.3 Technical assistance to the RMA for the installation of special tools and test equipment procured in the 4th Increment and listed in Attachment TBD, required for the overhaul of M60A1/M48A5 final drives.
- C.2.3.5.4 Provide technical assistance to the RMA for the installation of additional RMA-provided plant equipment listed in
- C.2.3.5.5 Design and development of the M60A1/M48A5 final drives overhaul process.
- C.2.3.5.6 Design, development, and implementation of training of RMA cadre in the use of tools, equipment and overhaul processes for the M60A1/M48A5 CD850 transmission.
- C.2.3.5.7 Conduct technical Inspections of unserviceable/repairable M60A1/M48A1 CD 850 transmissions on hand at the RMA supply depot to determine level of repair and select overhaul candidates, establish priorities, and production plan rates.
- C.2.3.5.8 Expansion of the facilities preventative maintenance program for additionally installed equipment.
- C.2.3.5.9 Collect training, quality and performance data on current operations and provide to RMA staff for recommended improvements. Provide technical advice and assistance to production operations.
- C.2.3.5.10 Provide requirements analysis and planning for 6th Increment.
- C.2.3.6 Sixth Work Increment: (Reserved) The sixth work increment includes the following work elements:
- C.2.3.6.1 Procurement and the delivery to the Moroccan freight forwarder special tools and test equipment required for the overhaul of M48A5 and M60A1 Fire Control components IAW SubCLIN TBD and as listed in Attachment TBD.
- C.2.3.6.2 Procurement and the delivery to the Moroccan freight forwarder overhaul parts for M113A1 TX100-1 transmissions, control differentials, transfer cases and final drives IAW SubCLIN TBD and as listed in Attachment TBD.
- C.2.3.6.3 Technical assistance to the RMA for the installation of special tools and test equipment procured in the 5th Increment and listed in Attachment TBD, required for the overhaul M113A1 TX100-1 transmissions, control differentials, transfer cases and
- C.2.3.6.4 Provide technical assistance to the RMA for the installation of additional RMA-provided plant equipment listed in Attachment TBD.
- C.2.3.6.5 Design and development of the M113A1 TX100-1 transmissions, control differential, transfer case and final drive overhaul
- C.2.3.6.6 Design, development, and implementation of training of RMA cadre in the use of tools, equipment and overhaul processes for the M60A1/M48A5 final drives.
- C.2.3.6.7 Conduct technical Inspections of M60A1/M48A5 final drives on hand at the RMA supply depot to determine repair candidates, priorities, and production plan.
- C.2.3.6.8 Extension of the facilities preventative maintenance program for additionally installed equipment.
- C.2.3.6.9 Collect training, quality and performance data on current operations and provide to RMA staff for recommended improvements. Provide technical advice and assistance to production operations.
- C.2.3.6.10 Provide requirements analysis and planning for 7th Increment.

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- C.2.3.7 Seventh Work Increment: (Reserved) The seventh work increment includes the following work elements:
- C.2.3.7.1 Procurement and the delivery to the Moroccan freight forwarder special tools and test equipment required for the overhaul of M48A5 and M60Al Gun Turret Drive and Gun Mount components IAW SubCLIN TBD and as listed in Attachment TBD.
- C.2.3.7.2 Procurement and the delivery to the Moroccan freight forwarder of overhaul parts for M60Al/M48A5 fire control IAW SubCLIN TBD and as listed in Attachment TBD.
- C.2.3.7.3 Technical assistance to the RMA for the installation of special tools and test equipment procured in the 6th Increment and listed in Attachment TBD, required for the overhaul of fire control components.
- C.2.3.7.4 Provide technical assistance to the RMA for the installation of additional RMA-provided plant equipment listed in Attachment TBD.
- C.2.3.7.5 Design and development of the M48A5/M60A1 Fire control overhaul process.
- C.2.3.7.6 Design, development, and implementation of training of RMA cadre in the use of tools, equipment and overhaul processes for the M113A1 TX100-1 transmission, control differential, transfer case and final drive.
- C.2.3.7.7 Conduct technical Inspections of M113A1 TX100-1 transmissions, control differentials, transfer cases and final drives on hand at the RMA supply depot to determine repair candidates, priorities, and production plan.
- C.2.3.7.8 Extension of the facilities preventative maintenance program for additionally installed equipment.
- C.2.3.7.9 Collect training, quality and performance data on current operations and provide to RMA staff for recommended improvements. Provide technical advice and assistance to production operations.
- C.2.3.7.10 Provide requirements analysis and planning for 8th Increment.
- C.2.3.8 Eighth Work Increment: (Reserved) The eighth work increment includes the following work elements:
- C.2.3.8.1 Procurement and the delivery to the Moroccan freight forwarder special tools and test equipment required for the overhaul of additionally identified systems as required IAW SubCLIN TBD and as listed in Attachment TBD.
- C.2.3.8.2 Procurement and the delivery to the Moroccan freight forwarder of overhaul parts for M60A1/M48A5 gun turret drives and gun mount components IAW SubCLIN TBD and as listed in Attachment TBD.
- C.2.3.8.3 Technical assistance to the RMA for the installation of special tools and test equipment procured in the 7th Increment and listed in Attachment TBD, required for the overhaul of M60A1/M48A5 gun turret drive and gun mount components.
- C.2.3.8.4 Provide technical assistance to the RMA for the installation of additional RMA-provided plant equipment listed in Attachment TBD.
- C.2.3.8.5 Design of the overhaul process for the M60A1/M48A5 gun turret drive and gun mount components.
- C.2.3.8.6 Design, development, and implementation of training of RMA cadre in the use of tools, equipment and overhaul processes for the M60A1/M48A5 fire control components.
- C.2.3.8.7 Conduct technical Inspections of fire control systems on hand at the RMA supply depot to determine repair candidates, priorities, and production plan.
- C.2.3.8.8 Extension of the facilities preventative maintenance program for additionally installed equipment.
- C.2.3.8.9 Collect training, quality and performance data on current operations and provide to RMA staff for recommended improvements. Provide technical advice and assistance to production operations.
- C.2.3.8.10 Provide requirements analysis and planning for 9th Increment.
- C.2.3.9 Ninth Work Increment (Reserved) The ninth work increment includes the following work elements:
- C.2.3.9.1 Procurement and the delivery to the Moroccan freight forwarder special tools and test equipment required for the overhaul of additional components as required IAW SubCLIN TBD and as listed in Attachment TBD.
- C.2.3.9.2 Technical assistance to the RMA for the installation of special tools and test equipment procured in the 8th Increment and as listed in Attachment TBD.
- C.2.3.9.3 Provide technical assistance to the RMA for the installation of additional RMA-provided plant equipment as listed in Attachment TBD.
- C.2.3.9.4 Design of additional required overhaul process.
- C.2.3.9.5 Design, development, and implementation of training of RMA cadre in the use of tools, equipment and overhaul processes for M60A1/M48A5 gun turret drives and gun mount components.
- C.2.3.9.6 Conduct technical Inspections of M60Al/M48A5 gun turret drives and gun mount components at the RMA supply depot to determine repair candidates, priorities, and production plan.
- C.2.3.9.7 Conduct technical Inspections of additionally designated systems on hand at the RMA supply depot to determine repair candidates, priorities, and production plan.
- C.2.3.9.8 Extension of the facilities preventative maintenance program for additionally installed equipment.
- C.2.3.9.9 Collect training, quality and performance data on current operations and provide to RMA staff for recommended improvements. Provide technical advice and assistance to production operations.
- $\hbox{\tt C.2.3.9.10 Provide requirements analysis and planning for any additional Increment.}$
- C.2.3.10 Tenth Work Increment (Reserved)
- C.3 PROGRAM MANAGEMENT: The Contractor shall provide the support and effort necessary to participate as part of the USG/RMA/GDLS CSSC Program Management Team. The functions of the Program Management Team will be to participate in program reviews, program scheduling, as well as identifying and resolving of program related problems.
- C.3.1 Program Interface: The Contractor shall be responsible for coordination of TVRF program schedules and requirements between the

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RMA and the USG. The Contractor shall coordinate designated subcontractor efforts, pertaining to the TVRF Program in order to insure the compliance to program plans, objectives, and schedules.

C.3.2 Plans and Management: The Master Program Plan and Schedule shall serve as a baseline objective for the Work Breakdown Structure (WBS). The WBS will be:

Program Management

Technical Support and Training Support

- C.3.3 Reporting: The Contractor shall report to the USG the status of program costs and performance on cost reimbursible CLINs.
- C.3.4 Program Plans, Schedules and Reviews: The Contractor shall provide the efforts necessary to conduct planning and to apply and manage its resources to ensure that program objectives and milestones are successfully completed. The Contractor shall develop and implement program plans to identify and integrate all tasks, task schedules and budget for all functions. The Contractor shall establish and maintain schedules and administrative controls to measure and report performance for all functions. The Contractor will participate in program reviews. Agendas, including charts, will be prepared in advance.
- C.3.5 Proposal Preparation: If and when the Contracting Officer requests a proposal, the Contractor is authorized to bill, as a direct cost under this contract, the bid and proposal costs associated with the development of proposals.
- C.3.6 Review and Access: The USG shall have the right to the following:
- C.3.6.1 Review, both in-process and completed project effort and documentation including, equipment identification, definition and validation/verification efforts, training, engineering support to production/technical assistance and analysis.
- C.3.6.2 Meet informally with Contractor personnel for purposes of obtaining information, data, program status, and plans and schedules.
- C.3.6.3 Witness the validation and verification of installed equipment and RMA personnel overhaul skills
- C.3.7 Meetings: The Contractor shall attend meetings with the U.S. Government suppliers and other responsible parties to ensure compliance with the Moroccan TVRF Program objectives.

#### C.4 MATERIAL ACQUISITION

- C.4.1 Special Tools, Test Equipment, and Plant Equipment shall include the preparation of subcontracts and/or purchase orders between the Contractor and the vendor(s) and, when required, the supervision of vendor installation.
- C.4.1.2 Design Drawings/Specifications: When required, the Contractor shall prepare specifications or design drawings for equipment/machinery, special tools and special test equipment required for the facilitization of the TVRF that was purchased to a performance specification developed under this program.
- C.4.1.3 Post-Procurement Follow-up: Upon the award of subcontracts and/or purchase orders, the Contractor shall provide on-going interface with suppliers to ensure timely deliveries and shall coordinate and track shipments.
- C.4.1.4 Equipment Tryout: For major items of equipment, after completion of the equipment build, the Contractor shall conduct a prove-out of the equipment at the manufacturer's or supplier's facility for conformity to the applicable specifications for the equipment and packaging requirements. The USG reserves the right to witness the prove-outs. In addition, when required, the Contractor shall conduct a tryout of each piece of equipment at the TVRF to ensure conformity to the applicable specifications for the equipment.
- C.4.1.5 Equipment Installation/Supervision: The original equipment manufacturer or supplier, the Contractor or Moroccan personnel may install the equipment. The analysis portion of each increment will involve the contractor's identification of equipment requiring installation and recommendation for manner in which it should be installed. The government reserves the right to participate in final acceptance inspections.
- C.4.2. Repair Parts and Supplies shall include the preparation of subcontracts and/or purchase orders between the Contractor and the vendor(s) and the supervision of vendor installation and tryout where applicable.
- C.4.3 Post-Procurement Follow-up: Upon the award of subcontracts and/or purchase orders, the Contractor shall provide on-going interface with suppliers to ensure timely deliveries and shall coordinate and track shipments .

# C.5 FACILITIZATION

- C.5.1 Installation of contractor procured equipment: Contractor will provide the RMA with technical advice and assistance installing and functionally testing plant equipment procured for the TVRF. The RMA will provide the tools, equipment, labor and Material Handling Equipment (MHE) necessary to transport and install equipment in the designated locations. The RMA shall provide the expendable and consumable supplies required to activate and operate the equipment. When required, the contractor shall supervise the equipment manufacturer's representative in the installation of the equipment in those cases when installation is included as a subcontract in the procurement of the item.
- C.5.2 Installation of RMA provided equipment: The contractor shall provide technical advice and assistance to the RMA in installing equipment currently on hand in RMA stores (stockage). Such equipment shall be identified by the RMA and included in the analysis portion of each increment of activation. The RMA will provide the tools, equipment, labor and Material Handling Equipment (MHE) necessary to transport and install equipment in the designated locations. The RMA shall provide the expendable and consumable supplies, repair parts, and documentation required to activate and operate the equipment. The contractor shall assist in functional testing of

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the equipment and identification of faults and missing items. The contractor shall, when possible, contact the equipment manufacturer to obtain information necessary to return the item to a serviceable condition. The contractor shall assist the RMA in developing plans to repair designated equipment.

- C.5.3 Facilities Layout and Preventative Maintenance Plan The Contractor shall assist RMA personnel in the preparation of equipment layout requirements for the Moroccan TVRF program and assist in the development of plans and guidelines for equipment installation. The contractor shall develop a facilities preventative maintenance plan for installed equipment based upon the manufacture's guidelines. The contractor will develop recommended parts and expendable/consumable lists for equipment and provide to the RMA as part of the analysis portion of each increment. These plans and lists will be updated in each increment as additional equipment is installed.
- C.5.4 Facilities Reengineering Planning. The Contractor will provide recommendations for improvements and modifications to the TVRF as required. If reengineering and construction is required, the Contractor may engage and supervise subcontractors in the preparation of design and drawings and in the conduct of these modifications. Such subcontracts will be considered as additions to this contract and the Contractor entitled to an equitable adjustment for changes causing a cost impact.

#### C.6 PROCESS DEVELOPMENT

- C.6.1 Task Analysis: The contractor shall develop the process documentation required to conduct the tasks and overhaul inspection procedures (OIP) necessary to perform the appropriate Direct Support/General Support (DS/GS) and Depot Maintenance Work Requirements (DMWRs) on the designated assemblies and components in each program increment. This documentation will utilize USG provided Technical Manuals (-34 level) and DMWRs to identify discrete tasks and inspections necessary to repair/overhaul the subject item.
- C.6.2 Process Sheets: Process sheets will be developed for subtasks required to perform the tasks identified in C.6.1. Generally, process sheets will be utilized for tasks identified as DS/GS level operations in the -34 level TM. When available, the contractor will include known engineering changes to the process sheets that have not been included in the Technical Manual.
- C.6.3 Inspection Standards: The contractor shall develop Inspection Standards for tasks required to support the overhaul inspection procedures (OIP) identified in C.6.1. Generally, these inspection standards shall reflect the standards identified in the appropriate DMWR. When available, the contractor will include known engineering changes to the inspection standards that have not been included in the DMWR. The Inspection Standards will be designed to allow the operator to be his own quality inspector.
- C.6.4 Work Instructions: The contractor shall prepare Work Instructions for the operation of Test, Measurement and Diagnostic (TMDE) and plant equipment provided under this case and identified in the analysis phase of each Increment for the current Increment. These Work Instructions shall be based upon the manufacturer's manual and focused upon those tasks required to overhaul the subject assembly or component.
- C.6.5 Change Management (Reserved): The contractor shall develop a procedure for the RMA to have the capability to change process sheets, inspection standards, and work instructions.
- C.6.6 Production Control Operations: (Reserved)
- C.6.7 Automation Support: (Reserved)
- C.6.8 Configuration Management (Reserved): The Contractor shall assist the RMA in developing a Configuration Management Process of the tracked vehicle components maintain control over the configuration of the equipment, processes and procedures used in the TVRF
- C.6.9 Calibration: (Reserved)
- $\hbox{C.6.10 Material Inventory Control, Logistics.} \ \ \hbox{The contractor shall:}$
- C.6.10.1. Develop bills of material for overhaul groups for subject major assemblies and subassemblies planned for overhaul.
- C.6.10.2. Design a demand history system to develop Moroccan overhaul factors for the TVRF and guide the FAR in its implementation.
- C.6.10.3. Research logistical data and provide cross-references for part numbers and federal stock numbers.
- C.6.10.4. Provide expert advice to the FAR in planning and scheduling the material requirements, mandatory replacement parts, repairable items, and provisioning to support production plans.
- C.6.10.5. Develop and provide to the FAR recommendations for future material procurements of repair parts, tools, and plant equipment.
- ${\tt C.7}$  DESIGN, DEVELOPMENT, AND IMPLEMENTATION OF TRAINING
- C.7.1 Training, General: The Contractor will establish a training program that provides the RMA with a systematic approach to become a progressive, flexible, and high performing organization. This program will ensure that training standards reflect the performance

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standards established in the Process Sheets, Overhaul Inspection Procedures, and Work Instructions that were developed to support the TVRF production program. The objective is to transition the RMA staff into the skill levels required to perform the designated tasks, and to establish a training system that provides the capability for the TVRF to become a learning organization that is able to implement continuous improvement.

- C.7.2 Requirements Analysis: The contractor shall perform a job analysis and analyze the tasks required to accomplish the overhaul of the designated equipment in each increment. These tasks will be identified based upon the Process Sheets, Overhaul Inspection Procedures, and Work Instructions developed IAW C.6 during the previous Increment for the subject equipment.
- C.7.2 Design: The Contractor shall determine the tasks to be trained and the method and location where and when they will be trained. The contractor shall determine the manner in which the tasks are to be trained such as conference, demonstration, practical exercise, on the job (OJT), self-paced, or training aid. The emphasis will be on practical exercises requiring hands on student participation during approximately 80% of available training time. The contractor will design Training Objectives for each task consisting of the Task Statement, the Conditions under which the task will be performed, and the Standard to which the task must be performed. The Contractor will conduct training in English. The design of training will reflect the use of interpreters provided by the RMA and utilize simplified, unambiguous language and terminology. The Contractor will determine the equipment, tools, repair parts, MHE, utilities requirements, technical documentation, TMDE, expendable and consumable supplies, and classroom requirements. The RMA will provide these items for each class. If the RMA cannot provide the required materials, or time is unavailable to complete all tasks, work-around will be developed that are mutually agreeable to both the RMA and the Contractor.
- C.7.3 Development: The Contractor will determine how the training objectives will be taught, establish units of instruction, and produce the instructional materials. Instructional materials will consist of Training and Evaluation Outlines (T&EO) and the appropriate Process Sheet, Overhaul Inspection Procedure, and/or Work Instruction to be trained. Emphasis will be to utilize the actual technical document that is required to perform the task, as the core of the instructional materials and as such will become the student guide. The T&EO will consist of the following elements:
- 1.Lesson Name.
- 2.Objectives Contained Within a Lesson.
- 3.Content of the Lesson. (Summary of student activities, instructional strategy, and evaluation method).
- 4. Prerequisites
- 5.Methods of Instruction.
  - Demonstration.
  - Practical Exercise (PE). Emphasis will be placed on PE's whenever possible to maximize hands on experience.
  - On the Job.
  - Lecture.
- Self-Paced or Programmed Instruction.
- 6.Class Duration
- 7. Media and Equipment.
- 8.Materials and Equipment Requirements.
- C.7.4 Implementation of Training: (reserved) This consists of the actual instruction and will consist in the preparation to instruct, the conduct of the instruction, measuring student achievement, and counseling of students. The contractor will ensure that adequate time is established for the instructor to prepare and set up his class and to practice with his interpreter. In general, three hours of preparation are required for each hour of instruction. Emphasis is to be upon student performance and instructors will evaluate the student's ability to perform the subject tasks and ensure his ability to perform to standard before proceeding to the next task. Instructors will assist students in the identification of their training needs and schedule time for remedial training as required. Normal class size will be 6 to 8 students and will not exceed 12.
- C.8 TECHNICAL INSPECTION: The contractor shall perform a technical inspection of designated assemblies and components to determine, prior to the beginning of overhaul activities, the extent of repairs necessary to return the engine to a serviceable condition. These inspections will be accomplished with the available documentation (odometer reading, logbook entry, work orders, discrepancy tags etc.), tooling and test equipment available at the time and these inspections are not intended to replace the pre-shop analysis in the overhaul process. The units shall be visually inspected for metal particles in the oil, outside leaks, missing parts, or other external problems that may be repaired and returned to service without resort to an overhaul. These inspections will be used to determine a baseline for overhaul candidates, priority of repair, repair parts and production planning. The inspection and maintenance principle to be used is Inspect and Repair Only as Necessary (IROAN).
- C.9 FEEDBACK AND ANALYSIS (Reserved)
- C.9.1 Objective: The objective of feedback and analysis is to ensure that processes, training, equipment, and support remains flexible and continuously responsive to the requirements of the TVRF. The Contractor will establish a feedback system to evaluate the ability of training to meet established performance standards, the capability of the material infrastructure to support production operations and the adequacy of processes to support the quality standards. The Contractor will provide written recommendations for improvements in training, material and processes to be included or addressed in each subsequent increment.
- C.9.1.2 Training Feedback and Analysis: The contractor will establish an evaluation system that will collect data on student

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performance, instructor effectiveness, and revision requirements. This data will be entered into the feedback portion for each increment to determine improvement and/or additional requirements for the subsequent increment.

- C.9.2 Material Requirements Feedback and Analysis:
- C.9.2.1 Determination of Material Requirements: The Contractor shall determine the material requirements needed to support the subsequent increments of the program. This will be based upon analysis of existing technical documentation and an analysis of RMA on hand materials. These requirements will be provided to the RMA as recommendations to be included on the subsequent procurement actions.
- C.9.2.2 Analysis of equipment operation: The Contractor shall evaluate the operation of equipment procured under this case for both its ability to perform to manufacture's specifications and provide support to the required processes. If the equipment does not perform to required specification, Contractor will provide corrective actions. There is no expressed or implied Contractor warranty provisions applicable to this equipment.
- C.9.2.3 Analysis of RMA on hand equipment: Contractor will provide technical advice and assistance to the RMA in the functional testing and operation of on-hand equipment to be used in the TCRF.
- C.9.3 Processes Feedback and Analysis: (Reserved) Validation/Verification (Val/Ver) is the process by which documentation and processes are analyzed to demonstrate the successful implementation of the maintenance capability of the TVRF. This will be accomplished by the Contractor providing technical advice and assistance to the TVRF staff as they initiate overhaul production operations following the training program.
- C.9.3.1 The Contractor shall establish a systematic methodology for Val/Ver. The methodology shall ensure the required standards of performance are achieved. If the standards are not achieved, the Contractor shall provide the RMA with recommendations for improvements to attain standards.
- C.9.3.2 The processes, documentation, and facilities equipment delivered in each work increment will undergo Val/Ver during the implementation of the production operations.
- C.9.3.3 When practicable, Val/Ver of the processes and documentation will occur simultaneously with the conduct of training. The process documentation itself will for the core of the training material used to train RMA personnel.

#### C.10 PROPERTY MANAGEMENT

- C.10.1 Government or RMA Property
- $\mbox{C.10.1.1 U.S.}$  laws apply and any actions shall take place in U.S. Courts.
- C.10.1.2 RMA is responsible for general neligence, which includes all not covered by contractor responsibilities in C.10.1.2.3 below. C.10.1.2.1 The term "Contractor's managerial personnel," as used in this paragraph C.10.1.2, means the Contractor's directors, officers, and any of the Contractor's managers, superintendents, or equivalent representatives who have supervision or direction of (i) All or substantially all of the Contractor's business; (ii) All or substantially all of the Contractor's operation at any one plant or separate location at which the contract is being performed; or (iii) A separate and complete major industrial operation connected with performing this contract.
- C.10.1.2.2 The Contractor shall not be liable for loss or destruction of, or damage to, the RMA property provided under this contract except as provided in subparagraph C.10.1.2.3 below.
- C.10.1.2.3 The Contractor shall be responsible for loss or destruction of, or damage to, the RMA property provided under this contract (including expenses incidental to such loss, destruction, or damage)(i) That results from a risk expressly required to be insured under this contract, but only to the extent of the insurance required to be purchased and maintained, or to the extent of insurance actually purchased and maintained, whichever is greater; (ii) That results from a risk that is in fact covered by insurance or for which the Contractor is otherwise reimbursed, but only to the extent of such insurance or reimbursement; (iii) For which the Contractor is otherwise responsible under the express terms of this contract; (iv) That results from willful misconduct or lack of good faith on the part of the Contractor's managerial personnel.
- ${\tt C.10.2}$  Availability of RMA property.
- C.10.2.1 The Contracting Officer may, by written notice, (i) fail to provide some or all, or reduce stated quantites, of RMA-furnished property provided or to be provided under this contract, or (ii) substitute other RMA-furnished property for the property to be provided by the RMA, or to be acquired by the Contractor for the RMA, under this contract. The Contractor shall promptly take such action as the Contracting Officer may direct regarding the removal, shipment, or disposal of the property covered by such notice.
- C.10.2.2 Upon the Contractor's written request, the Contracting Officer shall make an equitable adjustment to the contract in accordance with the changes clause, 52.243-1, if the RMA has agreed make the property available as listed in the Attachments for performing this contract and there is any i) Decrease or substitution in this property; or (ii) Withdrawal of authority to use this property.

  C.10.3 Property turn-over.
- C.10.3.1 For planning purposes, Contractor needs a 30 day notice when contract is complete.
- C.10.3.2 At end of contract, Contractor will make a list of property. Air conditioning equipment and security devices installed in leased offices or leased residences will not be turned over and are exempted from this list. RMA has 30 days prior to contract completion to make arrangements to take possession. At the end of the 30 days, property may be disposed or left in place.

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Contractor shall provide for all recruiting, employment, mobilization and in-country Personnel Support Services (PSS) for its U.S. citizen personnel. The RMA shall provide sponsorship and cooperative assistance in obtaining visas, work permits, customs clearances and any other documentation required by the Government of Morocco. PSS includes, but is not limited to, mobilization and demobilization, transportation, housing, health care, driver's licenses, check cashing, mail and package, legal services, translations and registrations, dependent support, import and export of personal effects, etc. Contractor will have APO privileges.

#### C.12 ASSUMPTIONS

- 1. The RMA will provide GDLS CSSC with the planned component mix.
- 2.Certain items of equipment owned by the RMA are already available at the TVRF. This equipment, listed in Attachment 002, including any documentation available, shall be provided to the Contractor for installation and/or use in the TVRF. Repairs to this equipment will be the responsibility of the RMA
- 3. The M60Al in Morocco does not have the Add on Stabilization (AOS) system; therefore, AOS support equipment is not included.
- 4.M48A5 and the M60Al processes will be combined to take advantage of commonality between components where feasible.
- 5.GDLS CSSC will utilize existing USG overhaul processes, tailored to the RMA mix/selection of DS/GS and depot tasks.
- 6. The RMA will provide cranes, lifts and material handling equipment required for the maintenance of tracked vehicle components.
- 7.Air, water, utilities, special foundations and electrical drops will be provided by the RMA in accordance with the equipment requirements. The contractor will not provide any utilities or building modifications under this contract. The RMA will provide MHE, labor and hook-up necessary to install equipment unless specifically designated as a Contractor responsibility in each increment. 8.Morocco will provide 2 copies of the Technical Manuals (TM's) and Depot Maintenance Work Requirements (DMWRs) listed in Attachment 005 relevant to the subject vehicles as required by the Master Schedule. For obsolete or out of publication manuals the USG will attempt to provide copies.
- 9.All documentation and training will be delivered in English.
- 10.GDLS CSSC will provide in-country training for the processes that are peculiar to the subject components. The RMA will be responsible for providing common and trade skills, including, but limited to, welding, machining, non-destructive testing and dimensional inspection.
- 11.All training will be conducted in English. The RMA will provide workforce personnel with basic technical and mechanical skills relevant to the task. Workforce will have current journeyman level skills, meaning that he is capable of performing maintenance and repair tasks using appropriate tools and documentation and without direct supervision and be capable of working with SAE standard measurements. Welders will be certified by the RMA to be able to conduct required MIG/TIG welds required by the Quality standards.

  12.The RMA will provide M48A5, M60Al and M113Al components for overhaul in accordance with the agreed upon schedule to support the validation/verification and training for the RMA.
- 13. The RMA will provide office space and utilities. The contractor will provide office machines, supplies and office furniture at the site office for GDLS CSSC use. RMA will provide western style sanitary facilities for the contractor.
- 14.International phone lines will be made available to GDLS CSSC at the site office. GDLS CSSC will assume the cost of the international calls.
- 15. The RMA will provide one each of those components selected for the overhaul operations at the time required as agreed to in the training schedule.
- 16. The RMA will provide GDLS CSSC with the quantity of engines, transmissions, main guns and fire control systems to conduct test runs as agreed to in the master schedule.
- 17.GDLS CSSC will procure mandatory replacement parts and repair parts to support the depot load IAW applicable contract attachments. The RMA will provide the spares and repair parts for the minor repair of engines that are not listed in Attachment 003 and specified in the Technical Inspections included at C.8.
- 18. The RMA will provide expendable tools, materials including, but not limited to, drill bits, cutting wheels, consumables, bits, and welding gases.
- 19.RMA will allow use engine/transmission dynamometers and other depot plant equipment, as required at the TVRF.
- 20. Proof firing of the overhauled 105MM guns will be conducted by the RMA.
- 21. The RMA will provide qualified interpreters, as required by GDLS CSSC to communicate with any non-English speaking RMA personnel.
- 22. The RMA will provide metrology lab support to calibrate tools and equipment and establish a calibration recall system for TMDE used to accomplish operations covered by this case.
- 23.RMA will provide Petroleum, Oil and Lubricant (POL) products and other expendable/consumables provided to support overhaul production operations and will meet specifications required in the appropriate technical manuals and DMWRs.
- 24. Tools and equipment that were assumed to be provided by the RMA (Attachment 002) and therefore not purchased under the case will be provided in a serviceable condition. Items that are listed in the attachment but not available through the RMA will be included when the contract is modified to add a subsequent increment or the contract will be modified to include procurement on the current increment
- 25. The overhaul standard is to Inspect and Repair only as Necessary (IROAN). This means that only non-serviceable items (as defined by DMWRs) will be repaired or replaced.
- 26.Maintenance and repairs to be conducted are to the depot overhaul standard, which means that the repaired item is returned to a serviceable condition. This is not a rebuild standard which is not economically feasible for this case.
- 27.RMA will provide material support to the training activity in accordance with the materials required by the Training and Evaluation Outlines (T&EO) included at C.7.3.
- 28.3M48A5/M60A1 Overhaul Parts: The Overhaul parts were assembled based on overhaul factors obtained from Anniston Army Depot. The overhaul factors are based on actual consumption criteria experienced by ANAD and they include all mandatory replacement items called for in the DMWR.

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29. Contractor is authorized rent-free noninterference use of facilities, tools, and equipment and utilities at the Morocco Tracked Vehicle Repair Facility during site visits under this contract.

- 30. IAW Note 11 to LOA MO-B-URJ the costs of this contract are predicated on the assumption that the purchaser (Government of Morocco) will not assess, or permit the assessment of any taxes, tariffs, levies or charges by the purchaser or any of its political subdivision, national or legal, of any kind whatsoever, including but not limited to, any type of property tax or charge, income tax or charge, intangible taxes or charges, automobile taxes or charges, consumption tax or charge, excise tax or charge, an ad valorem tax or charge, duties or imports, as a resuplt of U.S. Government and contractor personnel entering and being present in the country and in the performance of duty. Said exemption shall include but not be limited to material equipment, supplies, household goods, automobiles, and any other type of personal property imported into the country. In the event any of the above are assessed and paid by the contractor, the purchaser agrees to hold the person harmless by reimbursing the contractor in an amount equal to said payments upon the written request of the contractor.
- 31. The construction costs for adapting the Morocco TVRF dynamometer room are not included in this contract. RMA will perform or contract that action separately.
- 32. If funds available in a specific increment to procure specified plant equipment and/or repair parts are inadequate to meet all projected requirements, equipment and parts will be identified for procurement in subsequent increments as funds become available.
- 33. Machinist skills required to reclaim parts under appropriate DMWR's will be determined based upon production requirements based on preshop analysis and the machines available in Morocco. Skills to be trained will be determined following this analysis, thus the 1790 machinist skills will be trained during the 4th increment rather than the 3d increment.

\*\*\* END OF NARRATIVE C 002 \*\*\*

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SECTION F - DELIVERIES OR PERFORMANCE F-8 QUANTITY VARIATION

The material delivered under CLIN 0001AB of this contract shall be delivered as one lot, defined by Attachment 1, AVDS Plant Equipment Bill of Material. The Attachment lists numerous parts. The quantity delivered of each part listed in the Attachment shall be at least the quantity listed therein. The Contractor may deliver more than the listed quantity if done at no change in contract price.

- F-9 DELIVERY SCHEDULE
- F-9.1 Delivery for SubCLIN 0001AB is due 31 May 2001.
- F-9.2 Repair or determination of nonrepairability and proposed replacement cost for the four items at C.2.3.1.2 is due 28 Feb 2001.
- F-9.3 Delivery of report from Dynamometer room site survey, SubCLIN 0003AA, is due 31 Dec 2001. Report will be in contractor's format. Contractor shall deliver one copy to the PCO.
- F-9.4 Period of performance for SubCLIN 0003AB shall begin upon effective date of modification P00004 and end 31 Dec 2001.
- F-9.5 Period of performance for SubCLIN 0003AC shall begin upon effective date of modification P00004 and end 31 Dec 2001.
- F-9.6 Delivery for SubCLIN 0001AC is due 30 April 2004. Early delivery and incremental deliveries are acceptable at no additional cost to the government. Quantities shall be IAW attachment 003.
- F-9.7 Period of performance for SubCLIN 0003AD shall be from 1 Jan 2002 through 31 Jan 2002.
- F-9.8 Period of performance for SubCLIN 0003AE shall be from 1 Feb 2002 through 30 Jun 2002.
- F-9.9 Period of performance for SubCLIN 0003AF shall be from 1 Jul 2002 through 31 Dec 2002.
- F-9.10 The material under SubCLIN 0001AD shall be delivered no later than 31 May 2003. Early delivery and incremental deliveries are acceptable at no additional cost to the government. Quantities shall be IAW attachment 006.
- F-9.11 The material under SubCLIN 0001AE shall be delivered no later than 31 May 2003. Early delivery and incremental deliveries are acceptable at no additional cost to the government. Quantities shall be IAW attachment 007.
- F.9.12 Period of performance for SubCLIN 0003AG shall be for one week between 1 June 2002 and 31 December 2002.
- F.9.13 Period of performance for SubCLIN 0003AH shall be for one week between 1 November 2002 and 31 December 2002.
- F.9.14 The material under SubCLIN 0001AF shall be delivered no later than 31 December 2002. Early delivery and incremental deliveries are acceptable at no additional cost to the government. Quantities shall be IAW attachment 008.
- F.9.15 Period of performance for SubCLIN 0004AA shall be from 1 Jan 2003 through 31 Mar 2003.
- F.9.16 The material under SubCLIN 0001AG shall be delivered no later than 31 January 2003. Early delivery and incremental deliveries are acceptable at no additional cost to the government. Quantities shall be IAW attachment 009.
- F.9.17 Period of performance for SubCLIN 0004AB shall be from 1 April 2003 through 31 December 2003.
- F.9.18 The material under SubCLIN 0001AJ shall be delivered no later than 15 August 2003. Early delivery and incremental deliveries are acceptable at no additional cost to the government. Quantities shall be IAW attachment 011.
- F.9.19 The material under SubCLIN 0005AE shall be delivered no later than 5 April 2004. Early delivery and incremental deliveries are acceptable at no additional cost to the government. Quantities shall be IAW attachment 014.
- F.9.20 The material under SubCLIN 0005AF shall be delivered no later than 31 August 2004. Early delivery and incremental deliveries are acceptable at no additional cost to the government. Quantities shall be IAW attachment 015.
- F.9.21 The material under SubCLIN 0005AG shall be delivered no later than 31 August 2004. Early delivery and incremental deliveries are acceptable at no additional cost to the government. Quantities shall be IAW attachment 016.
- F.9.22 The material under SubCLIN 0005AH shall be delivered no later than 31 August 2004. Early delivery and incremental deliveries are acceptable at no additional cost to the government. Quantities shall be IAW attachment 017.
- F.9.23 The material under SubCLIN 0005AJ shall be delivered no later than 15 March 2004. Early delivery and incremental deliveries are

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acceptable at no additional cost to the government.

F.9.24 The material under SubCLIN 0005AK shall be delivered no later than 31 May 2004. Early delivery and incremental deliveries are acceptable at no additional cost to the government.

F.9.25 The material under SubCLIN 0005AL shall be delivered no later than 31 December 2003. Early delivery and incremental deliveries are acceptable at no additional cost to the government.

\*\*\* END OF NARRATIVE F 001 \*\*\*

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SECTION G - CONTRACT ADMINISTRATION DATA

	PRON/								
LINE	AMS CD/		OBLG STAT/				INCREASE/DECREASE		CUMULATIVE
<u>ITEM</u>	MIPR	<u>ACRN</u>	JOB ORD NO		PRIOR AMOUNT		AMOUNT		AMOUNT
0005AB	J517H030EH	AE	1	\$	64,059.00	\$	-2,553.00	\$	61,506.00
	URJ004		1ATJTI						
	J51URJ04EHMO								
0005AF	J527H600EH	AH	1	\$	0.00	\$	191,251.00	\$	191,251.00
	URJ009		2LTJNF						
	J52URJ09EHMO								
0005AG	J527H600EH	AH	1	\$	0.00	\$	46,255.00	\$	46,255.00
	URJ009		2LTJNF						
	J52URJ09EHMO								
0005AH	J517H031EH	AG	1	\$	0.00	Ċ	124,053.00	\$	124,053.00
OUUJAII	URJ005	AG	1ATJTH	Ÿ	0.00	Ÿ	124,033.00	Ÿ	124,033.00
	J51URJ05EHMO		11110111						
0005AJ	J517H031EH	AG	1	\$	0.00	\$	53,368.00	\$	53,368.00
	URJ005		1ATJTH						
	J51URJ05EHMO								
0005AK	J507G999EH	AB	1	\$	0.00	\$	2,162.00	\$	2,162.00
	N6591600MPO7016		0N6591						
0005AL	J507G999EH	AB	1	\$	0.00	÷	628.00	\$	628.00
UUUSAL	N6591600MPO7016	AD	0N6591	Þ	0.00	Ş	020.00	Ą	020.00
	140321000MEO/010		OINOJJI						
					NET CHANGE	\$	415,164.00		
							-,		

SERVICE	NET CHANGE		ACCOUNTING		INCREASE/DECREASE
NAME	BY ACRN	ACCOUNTING CLASSIFICATION	STATION		AMOUNT
Navy	AB	9711XX824228320007432200659162DPMOA44933480010GAU		\$	2,790.00
Army	AE	9711 X8242MOO1X6D1000URJ 004252GMOS20113	W56HZV	\$	-2,553.00
Army	AG	9711 X8242MOO1X6D1000URJ 005252GMOS20113	W56HZV	\$	177,421.00
Army	AH	9711 X8242MOO1X6D1000URJ 009252GMOS20113	W56HZV	\$_	237,506.00
			NET CHANGE	\$	415,164.00

		PRIOR AMOUNT	INCREASE/DECREASE		CUMULATIVE
		OF AWARD	AMOUNT		OBLIG AMT
NET CHANGE FOR AWARD:	Ś	17,999,963.00	\$ 415,164.00	\$	18,415,127.00

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SECTION J - LIST OF ATTACHMENTS

List of			Number	
Addenda	Title	Date	of Pages	Transmitted By
Attachment 012	ENGINE DYNAMOMETER ADAPTERS		001	
Attachment 015	CD850 OVERHAUL PARTS		003	
Attachment 016	CD850 MANDATORY REPLACEMENT PARTS		002	
Attachment 017	CD850 TOOLING		002	

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# ENGINE DYNAMOMETER ADAPTERS

Item	Part Number	Description	Qty
1	63090S	Wheeled engine cart, 6000lb capacity	1
2	63096	Universal front support	1
3	43037	Flywheel housing adapter yoke ( SAE 0, 1/2, 1)	1
4	43038	Flywheel housing adapter yoke ( SAE 2, 3, 4)	1
5	43031	Engine crankshaft adapter Detroit 53-series	1
6	43030	Engine crankshaft adapter Detroit 71-series	1
7	DELETED		
8	EEXDD53	Detroit 53-Series exhaust adapter	1
9	EEXDD71	Detroit 71-Series exhaust adapter	1
10	DELETED		
11	63066	700HP thermostatically controlled cooling system	1
12	no PN	Cooling column interconnetct kit	1
13	PNCNSK	Consumables Kit	1

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# CD-850 Transmission Repair Parts

Item	NSN	Nomenclature QTY	
1	2520-00-319-5920	PARTS KIT, TRANSMISSION PLANETARY	20
2	2520-00-323-8532	PARTS KIT, FRICTION CLUTCH	8
3	2520-00-323-8533	PARTS KIT, CLUTCH DISK	1
4	2520-00-653-9519	SLEEVE, TRANSMISSION	10
5	2520-00-679-4497	ADAPTER ASSEMBLY, PUMP, TRANSMISSI	1
6	2520-00-770-7917	TUBE ASY OIL FILTER	1
7	2520-00-770-7971	BREATHER	5
8	2520-00-770-8010	DETENT, STEERING LEVER	2
9	2520-00-776-7574	DISK,CLUTCH	145
10	2520-00-776-7629	FLANGE, COMPANION, VEHICULAR UNIVE	20
11	2520-00-776-7666	RETAINER, CLUTCH PLATE, TRANSMISSI	15
12	2520-00-776-7706	SHAFT, SHOULDERED	2
13	2520-01-019-0798	TURBINE, TORQUE CONVERTER	3
14	2520-01-031-4414	PARTS KIT, HYDRAULIC TRANSMISSION	9
15	2530-00-009-3405	DISC, BRAKE	45 9
16 17	2530-01-220-1513	PARTS KIT, SEDIMENT STRAINER	3
18	2590-00-673-2972 2640-00-060-3550	PARTS KIT,OIL FILLER UNIT CAP,PNEUMATIC VALVE	2
19	3020-00-323-8531	GEAR SET, BEVEL, MATCHED	4
20	3020-00-323-8331	GEAR, HELICAL	3
21	3020-00-679-4491	GEAR, HELICAL	5
22	3020-00-762-4502	GEAR, SPUR	7
23	3020-00-776-7640	GEAR, INTERNAL	1
24	3040-00-653-9518	SHAFT, SHOULDERED	2
25	3040-00-692-4911	HUB, BODY	15
26	3040-00-776-7535	SHAFT, SHOULDERED	2
27	3040-00-776-7654	CAM, CONTROL	10
28	3040-00-776-7849	LEVER, REMOTE CONTROL	10
29	3040-00-777-6759	SHAFT, STRAIGHT	5
30	3040-00-886-1207	HUB, BODY	10
31	3110-00-100-6149	BALL, BEARING	1
32	3110-00-155-6735	BEARING, BALL, ANNULAR	12
33	3110-00-156-7924	BEARING, BALL, ANNULAR	6
34	3110-00-157-0531	BEARING, ROLLER, NEEDLE	7
35	3110-00-186-5034	BEARING, ROLLER, CYLINDRICAL	9
36	3110-00-190-6665	BEARING, ROLLER, TAPERED	5
37	3110-00-195-0454	BEARING, ROLLER, TAPERED	5
38	3110-00-227-3982	ROLLER, BEARING	98
39	3110-00-277-0274	BEARING, ROLLER, CYLINDRICAL	8
40	3110-00-406-1540	BEARING, BALL, ANNULAR	20
41	3110-00-752-7800	BEARING, BALL, ANNULAR	2
42	3110-00-752-7810	BEARING, ROLLER, CYLINDRICAL	5
43	3110-00-770-7238	PLATE, RETAINING, BEARING	1
44	3110-00-902-2717	BEARING, ROLLER, NEEDLE	10
45	3110-00-948-9797	BALL, BEARING	1
46	3110-01-169-3170	BEARING, ROLLER, CYLINDRICAL	2
47	3120-00-039-7689 3120-00-711-5828	BEARING SET, SLEEVE	30
48 49	3120-00-711-5828	BEARING, WASHER, THRUST BEARING, SLEEVE	5 10
50	3120-00-717-6039	BEARING, SLEEVE	10
51	3120-00-752-1411	BEARING, WASHER, THRUST	4
52	3120-00-732-1411	BEARING, WASHER, THRUST	9
53	3120-00-776-7609	BEARING, WASHER, THRUST	15
54	3120-00-776-7610	BEARING, WASHER, THRUST	8
55	3120-00-776-7676	BEARING, WASHER, THRUST	26
56	3120-00-776-7769	BEARING, WASHER, THRUST	2
57	3120-00-776-7770	BEARING, WASHER, THRUST	3
58	3120-00-776-7897	BEARING, WASHER, THRUST	20
59	3120-00-776-8051	BUSHING, SLEEVE	3

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60	3120-00-955-5506	WASHER, THRUST, FREE	4
61	4320-00-404-7385	PUMP, ROTARY	5
62	4320-00-770-7909	PUMP, ROTARY	5
63	4710-00-752-1460	TUBE, METALLIC	3
64	4720-00-865-6025 4730-00-187-4191	TUBING, NONMETALLIC	12
65 66	4730-00-187-4191	PLUG, PIPE	1 2
67	4730-00-752-1426	COUPLING, TUBE COUPLING, TUBE	2
68	4730-00-732-1427	PLUG, PIPE	2
69	4730-00-844-5721	PLUG, PIPE	3
70	4730-01-059-1534	STRAINER, SUCTION	2
71	4820-00-242-4064	VALVE, PNEUMATIC TANK	5
72	4820-00-770-8111	VALVE, REGULATING, FLUID PRESSURE	1
73	5306-00-940-9041	BOLT, SELF-LOCKING	42
74	5307-00-567-4129	STUD, PLAIN	3
75	5307-00-637-9986	STUD, PLAIN	8
76	5307-00-699-6244	STUD, PLAIN	1
77	5307-00-737-8743	STUD, PLAIN	3
78	5307-00-752-0621	STUD, PLAIN	12
79	5310-00-823-8804	WASHER, FLAT	1
80	5310-00-934-9723	NUT, PLAIN, HEXAGON	4
81	5310-01-154-3991	WASHER, FLAT	1
82	5315-00-893-5933	PIN, GROOVED, HEADED	8
83	5325-00-282-5578	RING, RETAINING	26
84	5325-00-290-4501	INSERT, SCREW THREAD	1
85	5325-00-678-3309	INSERT, SCREW THREAD	1
86	5325-00-682-1453	INSERT, SCREW THREAD	5
87	5325-00-776-7715	RING, RETAINING	3
88	5325-00-804-3892	RING, RETAINING	1
89 90	5325-00-804-3893 5325-00-812-1894	RING, RETAINING	8 1
91	5325-00-812-1894	INSERT, SCREW THREAD INSERT, SCREW THREAD	1
92	5325-01-066-6853	INSERT, SCREW THREAD	6
93	5340-00-337-6403	PLATE, MOUNTING	21
94	5340-00-561-9961	PLUNGER, DETENT	1
95	5340-00-692-4912	PLUNGER, DETENT	2
96	5340-00-734-8761	RETAINER, HELICAL COMPRESSION SPR	1
97	5340-00-776-7847	PLATE, MOUNTING	8
98	5340-00-776-7866	COVER, ACCESS	2
99	5342-00-103-4217	RING	17
100	5360-00-104-2452	SPRING, HELICAL, COMPRESSION	48
101	5360-00-321-6135	SPRING, HELICAL, COMPRESSION	1
102	5360-00-597-0773	SPRING, HELICAL, COMPRESSION	2
103	5360-00-597-1225	SPRING, HELICAL, COMPRESSION	1
104	5360-00-695-8787	SPRING, HELICAL, COMPRESSION	2
105	5360-00-752-1423	SPRING, HELICAL, TORSION	160
106	5360-00-774-5575	SPRING, HELICAL, COMPRESSION	2
107	5360-00-776-7999	SPRING, HELICAL, COMPRESSION	45
108	5360-00-776-8000	SPRING, HELICAL, COMPRESSION	1
109	5360-00-776-8038 5360-00-776-8087	SPRING, HELICAL, COMPRESSION	2
110 111	5365-00-088-5243	SPRING, HELICAL, COMPRESSION SPACER, RING	6 2
112	5365-00-088-5244	SPACER, RING SPACER, RING	2
113	5365-00-088-5246	SPACER, RING	2
114	5365-00-178-6598	SPACER, RING	6
115	5365-00-281-9221	RING, LOCK, SERRATED	1
116	5365-00-770-7751	PLUG, MACHINE THREAD	4
117	5365-00-800-2844	SPACER, RING	4
118	5365-00-804-1509	RING, RETAINING	18
119	5340-00-770-8121	PLATE ASSY, REACTION, REBUILD	4
120	2530-00-323-8534	PARTS KIT, BRAKE	12
121	3040-00-776-7874	SHAFT	2
122	2520-00-770-7685	FLANGE, MUSHROOM	5

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123	2530-00-679-4495	BAND ASSY, REBUILT	15
124	5305-00-776-7655	SCREW	540
125	2520-00-770-8114	RACE	7
126	2520-00-431-3408	HUB	7
127	3120-00-717-6038	BEARING, SLEEVE	10
128	3020-00-776-7602	SUN GEAR ASSY, REBUILD	8
129	5130-00-809-5998	WASHER	50
130	5310-00-010-3028	NUT	100
131	4730-00-287-3714	DRAIN PLUG	4
132	2520-01-022-9748	VALVE BODY ASSY, REBUILD	4
133	2520-01-174-7444	KIT, STEERING	8

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# MANDATORY REPLACEMENT PARTS CD850 TRANSMISSION

Item	NSN	Description	U/M	Qty.
1	5340-00-103-4217	RING RETAINING	EA	30
2	5325-00-833-7454	RING RETAINING	EA	15
3	5325-00-832-4666	RING RETAINING	EA	90
4	5325-00-838-7706	RING RETAINING	EA	15
5	9505-00-293-4208	WIRE NONELECTRICAL .032	ROLL	1
6	5315-00-842-3044	PIN, COTTER	EA	30
7	5315-00-687-5218	KEY, WOODRUFF	EA	15
8	5330-01-352-7768	GASKET	EA	30
9	5305-00-905-3044	SETSCREW	EA	15
10	9505-00-244-7534	WIRE,LOCK .041Dia	ROLL	1
11	9505-00-974-6270	WIRE,LOCK .062 Dia	ROLL	1
12	5331-00-752-1413	PACKING, PERFORMED	EA	120
13	5331-00-752-1420	PACKING, PERFORMED	EA	60
14	5310-00-752-1461	NUT, SELF-LOCKING	EA	30
15	2520-00-753-9702	CUP, COMPRESSION	EA	30
16	5330-00-753-9712	SEAL RUBBER	EA	15
17	5340-00-753-9738	CUP, COMPRESSION	EA	30
18	5340-00-753-9739	CUP, COMPRESSION	EA	30
19	5330-00-753-9754	SEAL RING, METAL	EA	15
20	5330-00-770-7232	GASKET	EA	15
21	5325-00-770-7240	RING RETAINING	EA	45
22	5330-00-770-7245	SEAL, PLAIN, ENCASED	EA	60
23	5330-00-591-3449	SEAL, PLAIN, ENCASED	EA	30
24	5325-00-770-7326	RING RETAINING	EA	30
25	5365-00-776-7715	RING RETAINING	EA	15
26	5330-00-770-7682	SEAL RING, METAL	EA	15
27	5310-00-770-7786	WASHER, FLAT	EA	225
28	5330-00-770-7806	GASKET	EA	30
29	5330-00-770-8078	GASKET	EA	15
30	5325-00-282-7402	RING RETAINING	EA	30
31	5330-00-770-8123		EA	15
32	5330-00-770-8123	SEAL GASKET	EA	15
33	5310-00-039-8452	WASHER, FLAT	EA	225
34	5310-00-039-8453	WASHER, FLAT	EA	225
35	5330-00-599-7471	RUBBER ROUND SEAL	EA	30
36	5340-00-321-5954	BUMPER RUBBER	EA	60
37	5340-00-178-1403	PLATE, VALVE RETAINER	EA	15
38	5325-00-776-7532	RING RETAINING	EA	30
39	5330-00-776-7553	SEAL, PLAIN, ENCASED	EA	30
40	5330-00-776-7565	GASKET	EA	30
41	5330-00-776-7568	SPACER, RING	EA	15
42	5330-00-776-7570	SEAL, RING, METAL	EA	45
43	5325-00-776-7615	RING RETAINING	EA	15
44	5325-00-776-7616	RING RETAINING	EA	15
45	5325-00-776-7625	RING RETAINING	EA	30
46	5325-00-776-7626	RING RETAINING	EA	30
47	5330-00-776-7633	GASKET	EA	15
48	5330-00-776-7641	SEAL, RING, METAL	EA	30
49	5305-00-776-7648	SETSCREW	EA	45
50	5310-00-776-7667	NUT, PLAIN, ROUND	EA	15
51	5325-00-776-7704	RING RETAINING	EA	60
52	5365-00-776-7716	SPACER, RING	EA	15
53	5330-00-776-7735	GASKET	EA	15
54	5340-00-776-7743	PLATE	EA	180
55	5331-00-776-7747	PACKING, PERFORMED	EA	15
56	5331-00-776-8108	PACKING, PERFORMED	EA	30
57	5330-00-776-7838	GASKET	EA	15
58	5365-00-776-7848	SPACER, RING	EA	30
59	5325-00-776-7851	RING RETAINING	EA	60
60	5330-00-776-7859	GASKET	EA	15
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61	5330-00-776-7860	GASKET	EA	30
62	5330-00-776-7869	GASKET	EA	30
63	5310-00-776-7871	NUT, SELF-LOCKING	EA	30
64	5325-00-776-8006	RING RETAINING	EA	30
65	5325-00-776-8099	RING RETAINING	EA	30
66	5325-00-776-8100	RING RETAINING	EA	30
67	5331-00-291-2438	PACKING, PERFORMED	EA	30
68	5330-00-815-7994	PACKING, PERFORMED	EA	30
69	4720-00-865-6025	HOSE	EA	15
70	2805-00-978-0648	RING , TRANSMISSION	EA	30
71	5330-00-088-5245	GASKET	EA	60
72	2940-00-407-6752	FILTER ELEMENT	EA	30
73	5330-00-102-3671	GASKET	EA	60
74	5310-00-402-5220	NUT, SELF-LOCKING	EA	15
75	2520-00-886-1206	RING,OIL SEAL PUMP	EA	15
76	5330-00-050-1224	O-RING	EA	15
77	5330-00-102-3651	GASKET	EA	60
78	5330-00-194-3719	O-RING	EA	15
79	5330-00-194-3724	O-RING	EA	15
80	5330-00-198-6190	O-RING	EA	15
81	5330-00-297-6439	SEAL, PLAIN ENCASED	EA	30
82	5330-00-514-3289	GASKET	EA	60
83	5330-00-561-9965	GASKET	EA	15
84	5330-00-599-7471	RUBBER ROUND SECTION	EA	30
85	5330-00-770-7333	GASKET	EA	30
86	5330-00-770-7536	GASKET	EA	15
87	5330-00-774-4696	GASKET	EA	30
88	5330-00-776-7567	GASKET	EA	15
89	5330-00-776-7800	RETAINER, PACKING	EA	15
90	5330-00-776-7813	GASKET	EA	15
91	5330-00-776-7837	GASKET	EA	15
92	5330-01-075-7852	SEAL, PLAIN ENCASED	EA	30
93	5331-00-291-2438	O-RING	EA	30
94	5331-00-559-6182	O-RING	EA	15
95	5331-00-576-9733	O-RING	EA	15
96	5331-00-579-8108	O-RING	EA	15
97	5331-00-599-2934	O-RING	EA	15
98	5331-00-735-7484	O-RING	EA	15
99	5331-00-772-3892	O-RING	EA	15
100	5331-00-799-4930	O-RING	EA	15
101	5331-00-815-7994	O-RING	EA	15

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# CD850 TRANSMISSION TOOLING

ITEM	TOOL	NSN / PN	QTY
1	WRENCH TORQUE LB/IN	5120-00-906-1052	1
2		5120-00-640-6364	1
3		5120-00-900-1285	1
4	WRENCH TORQUE 3/4"DRIVE 0-600 FT/LBS DIAL	5120-00-221-7983	1
5	WRENCH TORQUE 3/8 DRIVE 0-250 FT/LB ADJUSTABLE C		1
6	HANDLE, REMOVER & REPLACER	5120-00-708-2981	3
7	ADAPTER, BRAKE APPLY	3010-01-146-1882	1
8	S-HOOK	4030-01-178-7310	4
9	BRACKET ASSY, END COVER LIFTING	4910-01-168-6851	1
	FEELER GAGES	3W003	1
	DIAL SNAP GAGE 0"-1"(W/DIAL INDICATOR)	MITUTOYO MT2-01251A	1
12		MITUTOYO MT2-01252K	1
		MITUTOYO MT2-01253E	1
14	CHAMFER GAGE	BNC-20660M	1
15	V BLOCKS SET (PERCISION) 6"	MODELVB-666M SUB-00572M	1
16	SURFACE PLATES	TABLE=GPS-80758 STAND=GPS-8202M	1
17	LIFT SLING NYLON 1800 LB CAPC. 2" TWISTED EYE	STOCK#6X801	1
18	STAND TRANSMISSION VALVE TEST	4910-01-170-4910	1
	DYE PENETRANT INSPECTION EQUIP	SK-S GEN PURPOSE KIT=2	2
	PUNCH, DRIVE PIN	STY-18593B	1
21	BOLT TRANS ALIGNMENT	7710931-Н1	6
	PIN, TRANS ALIGNMENT	7710932-H1	12
23	ALIGNMENT PIN THREADED	11650042-H1	12
24	BOLT, GUIDE	5306-00-773-7292	12
25	OILER, CAN 1PT	5JJ70	1
26	PULLER, PILOT BEARING	SP2031	1
27	BEARING PULLER SET, BLIND HOLE	CG2545AB	1
28	PLATFORM TRUCK, 30" X 60"	3W216	1
29	CABINET FLAMABLE LIQUID SAFETY STORAGE	4T197	1
30	DESK, CABINET SHOP	1W908	1
31	STOOL, INDDUSTRIAL BACKLESS	2W249	1
32	STEEL SCALE 12"	PEC-41012H	1
33	STEEL SCALE 24"	PEC-41024C	1
34	STEEL SCALE 36"	PEC-41036M	1
35	STEEL SCALE 48"	PEC-41048J	1
36	CALIPERS, 24in ELECTRONIC, DIGITAL	FOC-10024J	1
37	CYLINDER BORE GAGE	FOB48002E	1
38	STARRET DIGITAL DEPTH GAGE	STC-65662A	1
39	SNAP RING PLIERS SET SMALL	5C601	1
40	SNAP RING PLIERS SET LARGE	3R309	1
41	BORE SCOPE	ART2-4-150	1
42	HARDNESS TEST UNIT(BENCH TYPE)	NA	1
	BALL TIP MICROMETER	4K580 & 3X340	1
44	FLARING TOOL	4YR07	1
45	MACHINIST HAMMER	5C553	1
	FREEZER -125 DEGREE f	C85-12	1
47	FREEZER GLOVES	No. 1100	2
48	FREEZER BASKETS/RACKS	NA	1
49	PLASTIC HAMMER (1 3/4")	VGN-59104J	1
50	PLASTIC HAMMER (2 3/8")	VGN-59108E	1
51	CHISEL SET 6X320		1
52	CROWFOOT 1/2 DRIVE SET NA	20204	1
53 54	CROWFOOT 3/8 DRIVE SET WATER PUMP PLIERS 3pc set	29204 CNI52018K	1
55	OVEN(800 DEGREE F)	CNL-52018K AG-850	1
56	BENCH, WET TRANSMISSION DISASSEMBLY	N/A 1	
57	MAGNIFING GLASS & 4 POWER FLOODLIGHT MAGNIFIER		
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